

Remarks

Claims 4, 6, 7, 11 and 13 have been amended. Applicant respectfully submits that no new matter was added by the amendment, as all of the amended matter was either previously illustrated or described in the drawings, written specification and/or claims of the present application. Thus, claims 1-23 remain pending in this application. It is respectfully submitted that based on the following remarks, all of the presently pending claims are in condition for allowance.

Rejections Under 35 U.S.C. § 112

Claim 13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regards as the invention. Claim 13 has been amended to overcome this rejection.

Rejections Under 35 U.S.C. § 103(a)

Claims 4-12, 15-17 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0112441 to Bissen (hereinafter "Bissen"). (See 05/21/10 Office Action p. 3).

Claim 4 has been amended to recite, "to an upwardly facing region of a curved surface of the hub." Support for this amendment can be found in Figures 2 through 5.

Bissen relates to the technical field of civil engineering or general building construction. It addresses a different technical problem than that of the present invention, and provides a technical solution which would be totally inappropriate for the present application in the field of servicing of wind turbines.

First, Applicants submit that Bissen is not a document to which the person skilled in the art would turn into seeking to address the problem of securing a service crane at

the top of a wind turbine. The environment of a wind turbine provides particular challenges; equipment used in servicing of wind turbines, particularly equipment which is actually installed on the turbine itself, must be specifically adapted for that environment. Wind turbines are generally located in environments which are of course subject to high winds, and are typically difficult to access. A crane to be secured at the top of a turbine at some part of the nacelle some 100 meters off the ground must meet particular requirements in terms of its weight, dimension, configuration, load lifting capability and functionality. Bissen, being a document related to civil construction and to cranes of the type having long masts where a crane arm sits atop such a mast, is simply not a document to which a wind turbine engineer seeking to provide service of turbine components at the top of the nacelle would turn.

Secondly, as was discussed previously, Bissen is addressing a specific problem in the field of civil engineering/construction in that the mounting of construction masts typically employ supports specifically designed to accommodate a single mast size (See Bissen par. [0004]). Bissen teaches the provision of a mast support assembly able to accommodate a variety of mast diameters.

The solution adopted by Bissen is, as discussed previously, that the mast support comprises a box-like truss comprising top and bottom frame tubes interconnected by lacing members. The truss provides an adjustable wedging action which can receive different diameter masts. The truss is secured to the surface to which it is to be mounted by means of top and bottom wall anchorages 30, 36. These are bolted to the wall 12 in a manner known to those skilled in the art. (See Bissen par. [0021]). Thus, Bissen is teaching securing a mast-supporting truss on a vertical wall through bolting of top and bottom anchorages.

In contrast, the present invention is concerned with supporting a service crane on top of a wind turbine; specifically, in the challenging location of the hub of the turbine. As is recited in claim 1, and further emphasized by the claim amendments, this is

achieved by employing a structure where the crane is mounted on the generally upwardly facing surface of the curved hub through the provision of a connecting means having a lower surface adapted to conform to this upwardly facing curved surface. Thus, the crane is connected to the hub surface in a manner whereby the load of the crane itself and any payload thereon is taken down onto the connecting means, and in turn down onto the hub. The adaptations to this connecting means ensure distribution of force (or torque) onto the abutting hub surface, whereby a particularly rigid connection is achieved; this rigid connection being necessary where large payloads are being lifted.

The Examiner has referred to Bissen's reference to the mounting of the truss to "other structures such as concrete floors, steel framework, structural pilings, ballasted frames, and marine barges". Contrary to the Examiner's reasoning, with respect, this does not remotely teach the invention. It's difficult to see what this does teach beyond the securing of a truss to a vertical plane a wall; despite the references to these other structures Bissen gives no hint as to how the truss could secure to anything other than a planar vertical surface, given the structure of the disclosed truss. We must respectfully disagree that this constitutes a teaching of securing to a curved surface. The recited structures might have curved surfaces thereon, but this desire to mount to such structures is not a teaching of how such connection might actually be made. In any event, significantly, there is certainly no hint or suggestion of securing to an upwardly facing curved surface (or 'upper surface' as recited in claim 27) or of employing a connecting means having a lower surface adapted to conform to this upwardly facing curved surface, and as such, such cannot be obvious in view of Bissen's truss with its upper and lower anchorages for securing to a vertical surface.

Finally, we do not understand the Examiner's reference to the 'curb' of Pedersen (the present application); this is a component 'suspended from the crane' and is not part of the 'connecting means'.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Bissen in view of U.S. Patent No. 6,668,497 to Mayer et al. (hereinafter "Mayer"). (See 05/21/10 Office Action p. 11).

Applicant submits that Mayer does not cure the above-described deficiencies of Bissen with respect to claim 1. Therefore, Applicant submits that claim 1 is patentable over the combination of Bissen and Mayer. Because claim 14 depends from, and therefore includes all the limitations of claim 1, it is respectfully submitted that this claim is also allowable for at least the same reasons given above with respect to claim 1.

Claims 18-21 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bissen in view of U.S. Patent No. 4,002,243 to Kramer (hereinafter "Kramer"). (See 05/21/10 Office Action p. 3).

Applicant submits that Kramer does not cure the above-described deficiencies of Bissen with respect to claim 1. Therefore, Applicant submits that claim 1 is patentable over the combination of Bissen and Kramer. Because claims 18-21 and 23 depend from, and therefore include all the limitations of claim 1, it is respectfully submitted that these claims are also allowable for at least the same reasons given above with respect to claim 1.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Bissen in view of Kramer in further view of U.S. Patent No. 5,427,356 to Krotov et al. (hereinafter "Krotov"). (See 05/21/10 Office Action p. 11).

Applicant submits that Krotov does not cure the above-described deficiencies of Bissen and Mayer with respect to claim 1. Therefore, Applicant submits that claim 1 is patentable over the combination of Bissen, Mayer, and Krotov. Because claim 22 depends from, and therefore includes all the limitations of claim 1, it is respectfully submitted that this claim is also allowable for at least the same reasons given above with respect to claim 1.

Conclusion

In view of the above remarks, it is respectfully submitted that all the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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